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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Appl. No. : 09/923,510  
Applicant : Christiansen, et al  
Filed : 08/06/2001  
TC/A.U : 2633  
Examiner : Bello, Agustin  
Docket No. : TI-31440  
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Reply Brief

Commissioner for Patents  
P.O. Box 1450  
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I hereby certify that on this date, the above correspondence is being deposited with the US Postal Service as First Class Mail in an envelope addressed to: Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*William B. Kempler* 3/26/04  
William B. Kempler, Reg. No. 28,228 Date

Dear Sir:

Appellant submits this reply brief in response to the Examiner's Answer mailed January 29, 2004. The Commissioner is hereby requested and authorized to charge any fees necessary for the filing of this paper to Texas Instruments Incorporated deposit account no. 20-0668.

Appellant respectfully requests that the following arguments be considered by the Board in deciding whether the rejections of the instant claims are proper.

In the Examiner's Answer on page 8, lines 9-12, the Examiner recites a portion of a sentence from Willebrand, the full sentence being recited in Applicant's Appeal Brief at the top of page 6. This sentence reads in pertinent

part: "...preferably laser beams whose fundamental frequency or wavelength is encoded by signals of other frequencies which contain the information to be communicated." (emphasis added). The Examiner has not emphasized the words that Applicant has and does not recognize the problem in his argument which is refuted by those words. Willebrand's only disclosure throughout the Application is the use of frequency multiplexing or wave division multiplexing (WDM), which is a form of frequency multiplexing. The Examiner goes on to quote Willebrand as stating that a variety of different techniques are known and available for encoding and decoding information onto and from fundamental wavelength optical signals. The Examiner admits that Willebrand give the example of wavelength division multiplexing and agrees that Willebrand carries this example of wavelength division multiplexing throughout the patent. However, the Examiner concludes that the statement that "different techniques are know and available for encoding and decoding information onto and from fundamental wavelength optical signals" includes time division multiplexing, although it is not shown or suggested anywhere in Willebrand. Thus, the Examiner has only reached this conclusion after reading Applicant's disclosure, and therefore uses impermissible hindsight in reaching his conclusion.

This is clearly shown by the Examiner's choice of a second reference for combination with Willebrand. If the use of time division multiplexing in optical wireless communications were known, then the Examiner should be able to cite a reference which shows or suggests this technique. However, in order to find a reference which discloses this technique, the Examiner has resorted to a radio frequency communication network, as clearly shown in Reichman by the use of dish antennae and signal emanating lines in the figures which clearly indicate radio frequency communications. There is no showing or suggestion of the use of optical wireless communications in Reichman et al which is why Applicants believe that this reference is not from the same field of endeavor, the Examiner's statements to the contrary notwithstanding. The fact that the Examiner could not find an optical wireless reference which shows time division multiplexing used in this particular manner, and the fact that the one reference that he did find

teaches away from time division multiplexing (see below), indicates the weakness in the Examiner's argument.

The Examiner states that Willebrand does not preclude the use of time division multiplex and suggests that Applicant states that it does. Willebrand does not mention time division multiplexing in any manner, therefore, it does not make a statement that time division multiplexing would not work in this system. Applicants said that there is no showing or suggestion of the use of time division multiplexing and that the total reliance on frequency division multiplexing or WDM, a form of frequency multiplexing, teaches away from the use of time division multiplexing. The Examiner admits time after time in his Answer, that the only example that Willebrand provides for the known technique for encoding signals on optical wireless networks is frequency division multiplexing or WDM.

The Examiner's argument that Willebrand and Reichman are in the same field of endeavor because they are related to wireless communication and multiplex data, ignores the fact that the medium used to transmit the data is different in the two references. The Examiner has cited no basis for his statement that because time division multiplexing works in a radio frequency wireless communication system means it will work for the intended purpose in to optical wireless link of the present application. For example, Claim 9 recites a photo detector, a modulated light beam conveying data packets and a control circuit coupled to the photo detector, none of which are shown or suggested or would be appropriate in the Reichman et al system. Accordingly, the Examiner has had to reach into a non-analogous art in order to find a reference which shows this feature and make a statement, which has no other support, that this technique would be usable in an optical wireless link. Thus, the Examiner's reliance upon Reichman et al must fail.

Furthermore, given the fact that Willebrand only discusses frequency division multiplexing and given the fact that Reichman et al describes a system utilizing both frequency division multiplexing and time division multiplexing, if one were motivated to combine the two references, one would be motivated to use the frequency division multiplexing, which is the only form common to both

references. In addition, the Examiner's reasons for combining the two references is that one skilled in the art would have been motivated to time division multiplex control and data packets in order to have the ability to send control information at predetermined intervals of time, is without merit. Clearly the use frequency division multiplexing does not preclude one from having the ability to send control information at predetermined intervals of time. In fact, frequency division multiplexing gives one much greater latitude as to when the information will be sent. Therefore, if one was seeking freedom in the ability to send control information, the utilization of frequency division multiplexing would be more advantageous and one would not need to combine the teaching of Willebrand with any other reference to understand this possibility.

For the above reasons, Applicants respectfully submit that the Examiner's final rejection of Claims 9, 10, 12-14, 22-25 under 35 U.S.C. §103(a) as being unpatentable over Willebrand in view of Reichman et al is not properly founded in law. Applicants respectfully request that the Board of Patent Appeals and Interferences so find and reverse the Examiner's rejections of the claims.

Appellant respectfully requests the entry and consideration of this brief.

Respectfully submitted,  
Texas Instruments Incorporated

A handwritten signature in black ink, appearing to read 'William B. Kempler', with a stylized flourish at the end.

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